As part of the University of Colorado’s Space Weather Technology, Research, and Education Center (SWx TREC), we are pleased to announce the public release of the Space Weather Data Portal https://lasp.colorado.edu/space-weather-portal/ to provide unified and highly interactive access to disparate and formatted datasets. This tool intends to help close the Research to Operations (R2O) and Operations to Research (O2R) gaps by lowering the barrier to space weather data access and visualization. This poster shows a subset of the currently available datasets and data providers which together exemplify the 2015 St. Patrick’s Day storm as it makes its way from Sun to Earth (red). The poster also shows the highly interactive capabilities offered by the Space Weather Data Portal (purple).

As of 01 April 2014, a significant increase in energetic particles is seen at the ACE spacecraft at L1. Another ~23 and ~24 hours later gives a jump in solar wind velocity and the initial impacts seen at Earth based magnetometers. Soon thereafter, the Earth’s atmosphere is heated and expands. 

Empirical Model run on SWx TREC Testbed (See poster by Pankratz et al.) shows the impact on Earth’s magnetic field, electromagnetic field, and power grid. 

Van Allen Probes show flushing of electrons from the belts followed by significant influx afterward. 

Built on LaTIS https://github.com/latis-data/latis

Going forward, we will continue to:
• reach out to data providers to add datasets
• extend the sources and types of datasets
• provide for download of selected subsets in additional formats, including code snippets for programmatic access
• perform usability testing to guide design
• expand the metadata offerings
• further integrate with the SWx TREC testbed environment (see poster by Lucas et al.)
• add events to the library

Detailed metadata including credits, providers, descriptions, and links to other sources allow user to “deep dive” and examine in more detail the data. Ability to overlay datasets in different scales, zoom in (click and drag) for detailed analysis, and pan to other segments.

Collection of datasets/plots is saved in URL enabling user provided Event Library. Increase/decrease plots/page enabling inter-comparison or detailed view. Click and drag to manage plot order and variables on the plots.